

FIG. 1

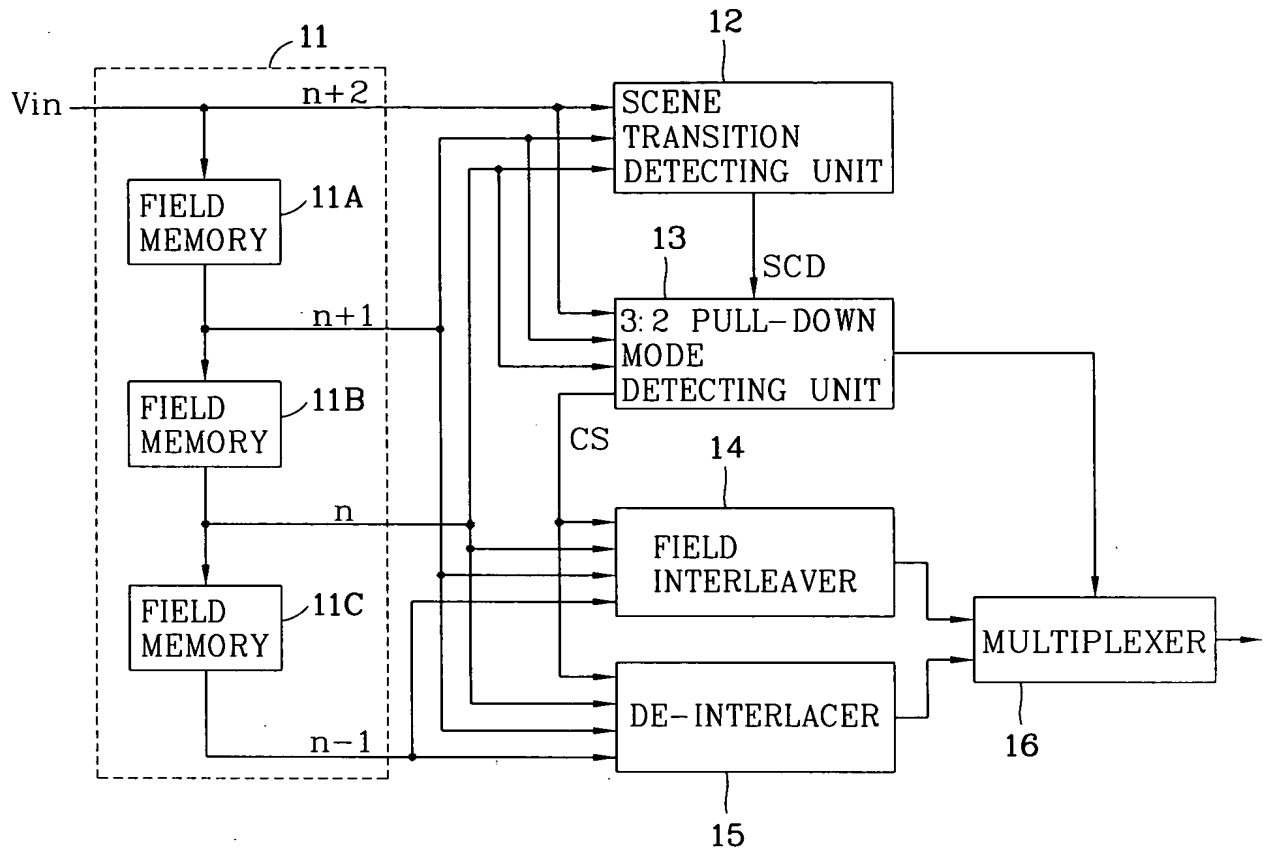


FIG. 2

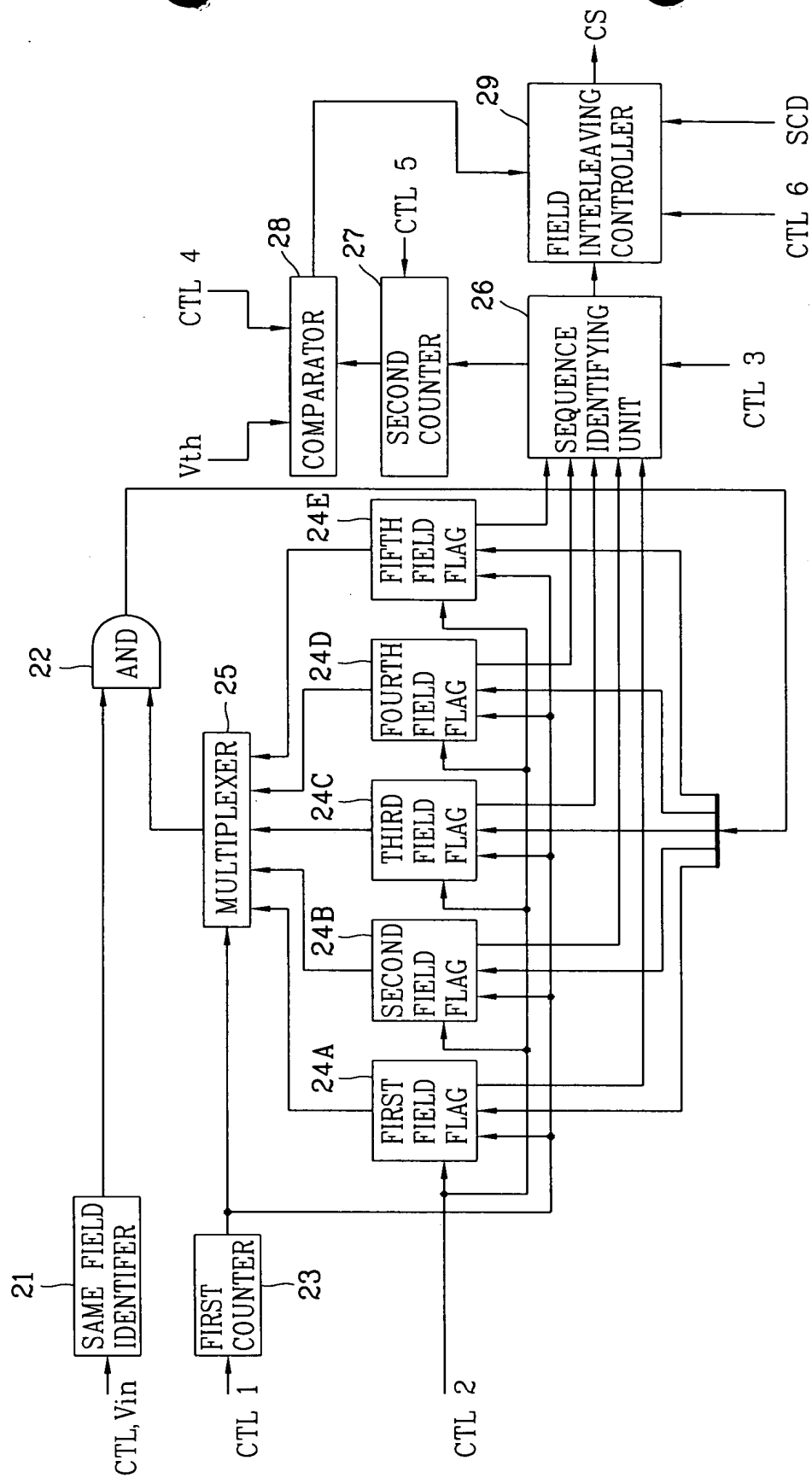
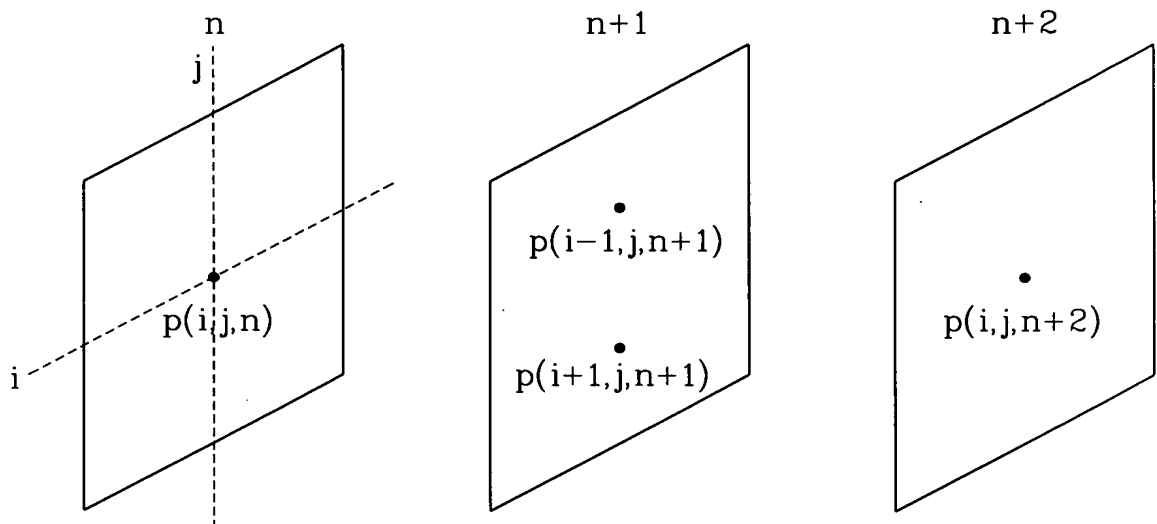


FIG. 3



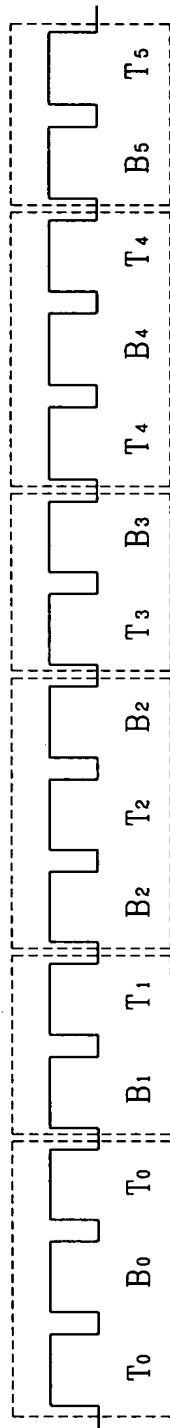


FIG. 4A

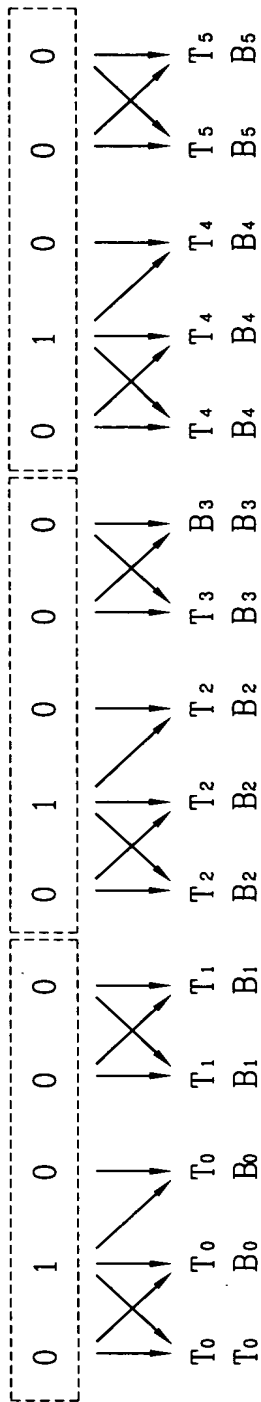


FIG. 4B

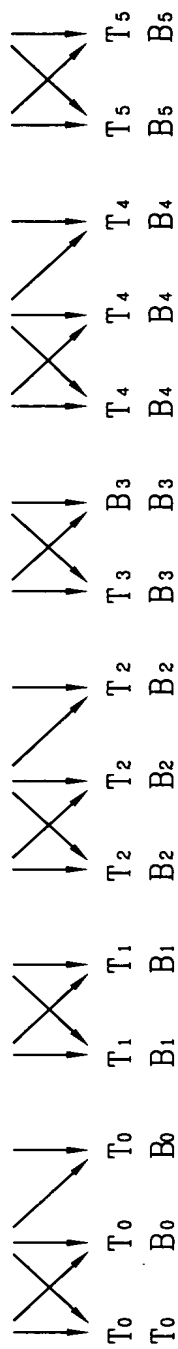


FIG. 4C

FIG. 5A

All variables are initialized to 0's every field.

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FOR(i=1; i<Vertical_Size; i++){
  FOR(j=0; j<Horizontal_Size; j++){
    half_interval= |p(i-1,j,n+1)-p(i+1,j,n+1)| /2
    mean=(p(i-1,j,n+1)+p(i+1,j,n+1))/2

    bd_(n+2&n)= |p(i,j,n+2)-p(i,j,n)|
    IF( |p(i,j,n)-mean| ≤ half_interval) THEN
      bd_(n+1&n)=0
    ELSE
      bd_(n+1&n)= |p(i,j,n)-mean| - half_interval
    END IF
    final_bd_(n+1&n)=min{bd_(n+2&n),bd_(n+1&n)}
    sum_(n+1&n)=sum_(n+1&n)-motion_(n+1&n)[0]
    FOR(k=0; k<6; k++) motion_(n+1&n)[k]=motion_(n+1&n)[k+1]
    IF(final_bd_(n+1&n)>THRESHOLDmotion) THEN
      motion_(n+1&n)[6]=1
    ELSE
      motion_(n+1&n)[6]=0
    END IF
    sum_(n+1&n)=sum_(n+1&n)+motion_(n+1&n)[6]
    IF(sum_(n+1&n)>3) THEN
      total_motion_(n+1&n)=total_motion_(n+1&n)+1
    END IF
    IF( |p(i,j,n+2)-mean| ≤ half_interval) THEN
      bd_(n+1&n+2)=0
    ELSE
      bd_(n+1&n+2)= |p(i,j,n+2)-mean| - half_interval
    END IF
    final_bd_(n+1&n+2)=min{bd_(n+2&n),bd_(n+1&n+2)}
    sum_(n+1&n+2)=sum_(n+1&n+2)-motion_(n+1&n+2)[0]
    FOR(k=0; k<6; k++) motion_(n+1&n+2)[k]=motion_(n+1&n+2)[k+1]
    IF(final_bd_(n+1&n+2)>THRESHOLDmotion) THEN
      motion_(n+1&n+2)[6]=1
    ELSE
      motion_(n+1&n+2)[6]=0
    END IF
    sum_(n+1&n+2)=sum_(n+1&n+2)+motion_(n+1&n+2)[6]
    IF(sum_(n+1&n+2)>3) THEN
      total_motion_(n+1&n+2)=total_motion_(n+1&n+2)+1
    END IF
  }
}

```

FIG. 5B

```

IF( |total_motion_(n+1&n)-total_motion_(n+1&n+2)| < THRESHOLDdiff_motion ) THEN
    "The scene change did not occurred."
ELSE
    IF(total_motion_(n+1&n)<THRESHOLDtotal_motion ) THEN
        total_motion_(n+1&n)=0
    END IF

    IF(total_motion_(n+1&n+2)<THRESHOLDtotal_motion ) THEN
        total_motion_(n+1&n+2)=0
    END IF

    IF(total_motion_(n+1&n)<total_motion_(n+1&n+2) THEN
        "The scene was abruptly changed in the (n+2)th field."
    ELSE IF(total_motion_(n+1&n)>total_motion_(n+1&n+2)) THEN
        "The scene was abruptly changed in the (n+1)th field."
    ELSE
        "The scene change did not occurred."
    END IF
END IF

```

FIG. 6

All variables are initialized to 0's every field.

```

FOR(i=1; i<Vertical_Size; i++){
    FOR(j=0; j<Horizontal_Size; j++){
        half_interval= |p(i-1,j,n+1)-p(i+1,j,n+1)| /2
        mean=(p(i-1,j,n+1)+p(i+1,j,n+1))/2

        IF( |p(i,j,n)-mean| ≤ half_interval) and( |p(i,j,n+2)-mean| ≤ half_interval))
            THEN bd_(n+2&n)=0
        ELSE
            bd_(n+2&n)=| p(i,j,n+2)-p(i,j,n)|
        END IF

        sum_(n+2&n)=sum_(n+2&n)-motion_(n+2&n)[0]
        FOR(k=0; k<6; k++) motion_(n+2&n)[k]=motion_(n+2&n)[k+1]
        IF(final_bd_(n+2&n)>THRESHOLDmotion ) THEN
            motion_(n+2&n)[6]=1
        ELSE
            motion_(n+2&n)[6]=0
        END IF

        sum_(n+2&n)=sum_(n+2&n)+motion_(n+2&n)[6]
        IF(sum_(n+2&n)>3) THEN
            total_motion_(n+2&n)=total_motion_(n+2&n)+1
        END IF
    }
}

```